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I, LEANNE MYNOTT, MANAGER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2004901789 for a patent by MODALCO PTY LTD as filed on 05 April 2004.

WITNESS my hand this
Fifth day of May 2005

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RETAINING WALL

The present invention relates to a retaining wall.

Traditional Retaining walls can be gravity walls, cantilever walls or reinforced earth walls. Reinforced earth is usually the most cost effective, however the soil reinforcing members require high levels of compaction to function. Retaining walls are usually the first structure installed on a building site followed by other installations. Many of these installations also require excavation of the ground behind the retaining wall. When the reinforcements are accidentally dug up they loose the compaction that prevents them from pulling out of the soil. This may result in the retaining wall failing.

Gravity retaining walls cost more money to install than reinforced earth, however they usually consist of a mass of concrete or stone and rely upon their mass weight to retain the soil. Excavation of the soil behind a gravity wall has no effect on the structural strength of the wall.

The present invention was developed to overcome at least some of the abovementioned problems and to combine the cost advantages of soil reinforcement with the resistance to its fill excavation exhibited by gravity retaining walls.

Throughout this specification the term 'comprising' is used inclusively, in the sense that there may be other features and/or steps included in the invention not expressly defined or comprehended in the features or steps subsequently defined or described. What such other features and/or steps may include will be apparent from the specification read as a whole.

According to the first aspect of the present invention there is provided a method of designing and constructing a soil retaining wall comprising a soil reinforced by layers of reinforcement in its lower portion and blocks whose combined mass prevents the forward motion of soil in the upper portion of the retaining wall the transition from said lower portion to said upper portion comprising an object preventing sliding of the upper portion over the lower portion.

According to the second aspect of the present invention there is provided a method of designing and constructing a soil retaining wall comprising a soil reinforced by layers of reinforcement in its lower portion with impact resistant objects laid above the mass of reinforced soil and blocks whose combined mass prevents the forward motion of soil in the upper portion of the retaining wall the transition from said lower portion to said upper portion comprising an object preventing sliding of the upper portion over the lower portion.

Such an invention permits the construction of a retaining wall in a very low cost manner without the wall failing if its surface fill behind is excavated . The depth of the transition from reinforced soil to gravity wall can be changed very easily to accommodate the trenching requirements of such things as building footings and installation of services such as pipelines and cables. When the soil is excavated the digging machine operator does not know what is under the soil, hence when he/she hits the gravity wall or impact resistant layer above the reinforced soil he/she will become aware of the error and stop digging without damaging the structure.

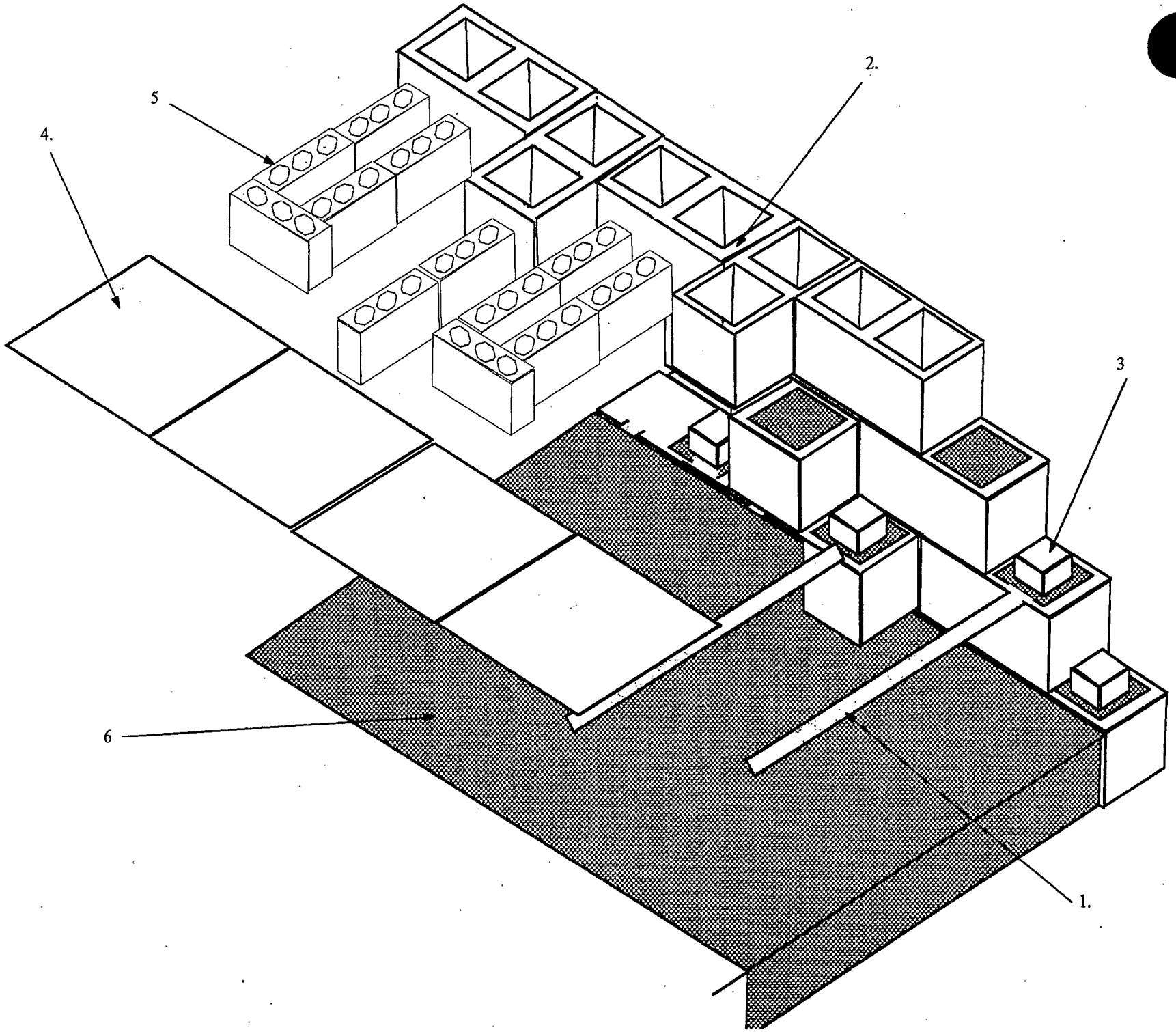
The facing of the reinforced soil and the gravity wall portions can be identical providing a uniform appearance across the total face of the wall.

The present invention will now be described, by way of example only, with reference to the accompanying drawings in which:-
Figure 1 is a sectional isometric view of the retaining wall. Referring to figure 1 The reinforcement (1) is installed into the soil in the usual practise by way of laying the reinforcement onto the soil and backfilling and compacting the soil (6) on top of it. The transition depth from reinforced soil to concrete block is predetermined by the necessary depth of the structures behind it. Concrete slabs are laid onto the reinforced soil and behind the proposed gravity block wall. At the transition concrete shear blocks (3) are installed inside the facing blocks (2) and the facing blocks of the gravity wall component placed onto them. The concrete blocks (5) are then laid on top of the reinforced soil (6) and filled with sand in the usual practise until the required height of wall is achieved.

Numerous variations and modifications will suggest themselves to persons skilled in the relevant art, in addition to those already described, without departing from the basic inventive concepts. For example the reinforcement in the soil could consist of mesh connected to the facing blocks, the facing blocks could consist of solid concrete or stone, the shear pin could be incorporated into the body of the facing block, the protective panels could consist of material other than concrete and the gravity wall could consist of mass concrete or stone blocks. Also, a block of stone could be laid across the transition from soil reinforced wall to gravity wall. All such variations and modifications are to be considered within the scope of the present invention, the nature of which is to be determined from the foregoing description.

DATED THIS 5TH DAY OF APRIL 2004

Sam P Costin.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